upon the coast or inland, we should expect to find one or more related species, bearing conspicuous, softer and more palatable seeds (as in the case of the so-called "Florida bean"), the ancestors of which had been carried from the beach when the process of selection in the two directions began.—W. H. SHERZER, *State Normal School, Ypsilanti, Mich.*

Lichens, the only "thallophytes."—It is with great pleasure that I go through the new text-books of botany; their wealth of material and new views of classification are of extreme interest. The large amount of space devoted to cryptogams, more especially to the lower cryptogams, is in great contrast to the limited space accorded them in earlier works. The general method, too, is quite different; there is everywhere a severe strain after the homologies, while the analogies and affinities of the old botanists are scarcely considered.

We are furnished with new terms in vast profusion, contributing greatly to conciseness of thought and facility of expression. It would seem superfluous to ask for anything more in this respect; nevertheless it seems to me it would conduce greatly to ease and brevity of reference and description, to have a technical term for the vegetative system, and another for the reproductive system of plants in general. It is true that *vegetation* and *fructification* are made use of, but they are not technical terms, because they are employed with other meanings.

Fitting terms are used in some of the classes of plants. The vegetative and reproductive systems of a fungus are clearly and broadly indicated by *mycelium* and *sporophore*, those of a myxomycete by *plasmodium* and *sporangium*, of a lichen by *thallus* and *apothecium*. But in descriptive works upon the algæ, there is great confusion and uncertainty in the terms; we find cell, thread, filament, frond, stem, etc., in common use for the vegetative system and a greater multitude of terms for the reproductive system. These are all well enough in their special applications, but there is need of a pair of contrasting terms for each separate function in general. Wallroth, who was much given to invention of terms, employed the term *physeuma* to cover "frons, filum, caulis, folium" of Agardh.

This leads me to speak of the term *thallus*. The usage of the writers of the text-books and that of the writers of systematic works do not coincide. None of the latter speak of the *thallus* of a fungus; they say *mycelium*, or sometimes they revert to the component *hyphæ*. Even in certain cases where its use might be suggested, as in *Solenia anomala* Pers., we find the tubules "sitting on a *mycelium*," or in "*Peziza fusca* Pers., where the ascomata rest on a "*subiculum*." I have

not observed the *thallus* of the Myxomycetes to be written even in the text-books.

The use of the term *thallus* is now practically confined to the Lichens and more especially to the thin flat expansions, either foliaceous or crustaceous of the vegetative system. Its use in this same sense is transferred to certain plants not only among the Algæ but also in the Hepaticæ. Here, however, the better term would be *thallode*. Hence, so far as the usage of systematic works is concerned, the denomination Thallophyta of the text-books applies only to the lichens.

Finally, it is with some amazement that I view the new systems of classification in the most recent text-books. In the lower cryptogams there is an evident recoil to the Algæ and the Fungi, if not of Linnaeus, of Agardh and Fries. This is a return to a consideration of the vegetative system of these plants instead of the reproductive. On this account it would seem necessarily to involve the setting apart again of the lichens, whose vegetative system is now known to be unique among plants. Up to date, then, the gain in general classification has been only to segregate the Myxomycetes as an independent class. But in the development of the subordinate members of the scheme, the progress has been wonderful, though it is not yet by any means complete.—A. P. MORGAN, *Preston, O.*

Bibliography of American Botany.—The author catalogue on cards issued under the direction of the Bibliography Committee has completed its second year and is steadily growing. The first and smallest issue numbered seventeen cards; the largest (Nov. 1895) numbered 89 cards. The average monthly issue for 1894 was 49 cards, for 1895, 63 cards. The total issue for 1894 and 1895 is 1,343 cards.

In response to various requests an edition by subjects is in preparation, but as yet no fully satisfactory subject-classification has been found. Botanists would confer a great favor, and advance the work, by sending the committee any suggestions to this end, and particularly by stating what subjects and what phases of botanical science they would like to have the catalogues show, each for his special purpose. The committee is working in the interests of American botanists and wish to adapt the work to their needs. Address the Secretary of the Committee on Bibliography, 1286 Massachusetts Ave., Cambridge, Mass.